

AIR FORCE MATERIEL COMMAND

# LEADING EDGE

December 2001



# AFMC People

A family of professionals



# LEADING EDGE

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Air Force Materiel Command  
Wright-Patterson Air Force Base,  
Ohio

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Department of Defense  
Thomas Jefferson Awards  
First Place, Magazine Format,  
1996  
Second Place, 1998, 1997, 1995

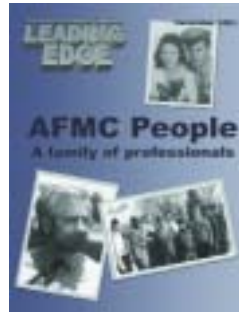
Air Force Media Awards  
First Place, Magazine Format,  
1998, 1997, 1996, 1995, 1994  
Second Place, 2000, 1993, 1992  
Third Place, 1999



This funded Air Force magazine is an authorized publication published monthly for the people of the Air Force Materiel Command. Contents of LEADING EDGE are not necessarily the official views of, or endorsed by, the U.S. Government, the Department of Defense or the Department of the Air Force. The editorial content is edited, prepared and provided by the Public Affairs Office of Headquarters Air Force Materiel Command, 4375 Chidlaw Rd., RM N152, Wright-Patterson AFB, Ohio 45433-5006. The magazine can be found on the Internet on AFMC/PA's home page: [https://www.afmc-mil.wpafb.af.mil/HQ-AFMC/PA/leading\\_edge/index.htm](https://www.afmc-mil.wpafb.af.mil/HQ-AFMC/PA/leading_edge/index.htm). Photographs are official U.S. Air Force photos unless otherwise indicated. Distribution ratio is 8:1. For submission and writers' guidelines, contact the editor at the above address or DSN 787-7602 or (937)257-1203. Send e-mail to: [Elizabeth.VanHook@wpafb.af.mil](mailto:Elizabeth.VanHook@wpafb.af.mil)



## Cover Stories



Cover design by Ms. Crystal Reed, AFMC/PAI.

## 4 - 13 The AFMC family

**T**hey come in all sizes and colors, young and old, retired or just beginning their career in Air Force Materiel Command. In this issue we highlight a few of the many talented people who make up the AFMC family.

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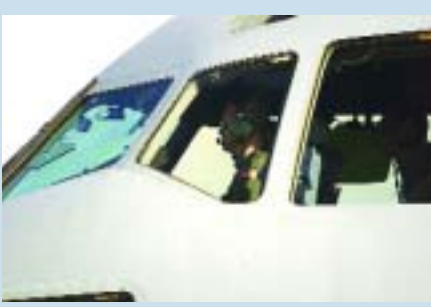
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Security Forces preform a function vital at every AFMC installation. Find out what "makes their day" on page 18.





## AFMC vice commander delivers newest C-17

CHARLESTON AIR FORCE BASE, S.C. — A brand-new C-17 was recently flown here by Lt. Gen. Charles Coolidge Jr., vice commander of Air Force Materiel Command, Wright-Patterson AFB, Ohio.

The flight of the Block 12 version of the C-17 was the second of three new aircraft to be delivered to the base. Gen. Coolidge volunteered to fly the aircraft on its first flight into the base. AFMC is responsible for overseeing C-17 procurement, future improvements, upgrades and long-term sustainment.

Charleston is receiving the Block 12 versions of the C-17, which include extended-range fuel tanks, global air traffic management system, and other computer and avionics upgrades.

While here, Gen. Coolidge had an opportunity to tour the assembly plant and comment on AFMC's efforts to support the warfighting commanders in the war against terrorism.

"Our mission is to support the warfighter," Gen. Coolidge said. "We are gearing up support in certain areas, even before the warfighter asks. An example of that is our munitions support. In certain other areas, we are actually pushing technology to the warfighter, some of which is in the reconnaissance business."

Gen. Coolidge said the C-17 amazes him every time. "It's a beautiful airplane!"

— Information provided by 437th AW Public Affairs

## Hill squadron gives new life to Greek Air Force F-16D

HILL AIR FORCE BASE, Utah — A Greek Air Force F-16D fighter recently shot into the sky for the first time in four

years at Hill AFB, Utah, ending a \$5 million restoration project that saved the aircraft from the scrap pile.

Members of Hill's 649th Combat Logistics Support Squadron won a bid to repair the aircraft in July 1997, two years after it caught fire and was almost destroyed. Squadron members went to Greece and shipped the aircraft, originally valued at \$30 million, to Hill for repairs. Four years and \$5 million later the once seemingly doomed aircraft took to the skies.

As the only Air Force squadron that does fighter crash repair, the combat logistics support squadron's main mission is aircraft battle damage repair during war. The team also sends members to the field to do depot repair.

They also have a hanger that can fit five fighter aircraft inside for repair work. The average aircraft spends about two years at Hill for repairs.

— Information provided by OO-ALC Public Affairs

## KC-135 flies 43 days ahead of schedule

TINKER AIR FORCE BASE, Okla. — New maintenance initiatives, creating a parts storage facility and working around the clock helped Tinker AFB, Okla., aircraft production division members send a KC-135 back into operation 43 days ahead of schedule.

The aircraft took off after 190 days of production; the normal time is 233 days. Its sale, originally set for 2002, was brought into 2001 meeting a Secretary of the Air Force suspense for 122 total depot possessed aircraft.

— Information provided by OC-ALC Public Affairs

## E-3 AWACS complete Block 30/35 upgrade

TINKER AIR FORCE BASE, Okla. — The last of 33 U.S. E-3s with the final Block 30/35 modification installed recently rolled out of production here as members of Tinker's 552nd Air Control Wing put them in back in operational service.

The \$950 million program is one of several multi-stage improvements AWACS has undergone since the first E-3 entered service in March 1977.

Developing the upgrade began in May 1987 and the first aircraft was completed

in October 1995.

Experts from the AWACS System Program Office at Hanscom AFB, Mass., and Tinker manage the development, production and sustainment of AWACS programs. The Oklahoma City Air Logistics Center's Aircraft Production Division accomplished the modifications, with the Boeing Company serving as the prime contractor for both development and production.

The upgrade adds a new electronic listening capability to AWACS that will allow it to identify unfriendly radar targets up to 300 nautical miles away.

The upgrade provides the warfighter a significant increase in combat capability and includes the electronic support measures system, a global positioning system navigation sensor and upgrading the joint tactical information distribution system.

— Information provided by OC-ALC Public Affairs

## Test flights mark major advance for JPALS

HANSCOM AIR FORCE BASE, Mass. — A system designed to provide precision aircraft approach and landing for all military services in any weather and for virtually any mission completed initial flight testing here recently.

Experts from the Electronic Systems Center and prime contractor Raytheon successfully completed the initial flight-testing phase for the joint precision approach and landing system program, or JPALS, paving the way to analyze the results and map future risk reduction and testing activities. The tests were conducted at Holloman AFB, N.M.

The global positioning system allows the new system to provide accurate and reliable landing guidance for low-visibility approaches. The Air Force is the Defense Department lead service for the entire joint program.

JPALS is being designed to support fixed base, tactical, special mission and shipboard landing environments. The Navy, which is developing its own JPALS variant for shipboard landings, had its first successes when an F/A-18 Hornet landed aboard the USS Theodore Roosevelt in April. This marked the world's first fully automated global positioning system landing at sea.

— Information provided by ESC Public Affairs



## AFMC made up of diverse professionals

— By Tech. Sgt. Carl Norman  
AFMC Public Affairs

**R**ocket scientists, nuclear physicists, computer analysts and programmers, aircraft “doctors,” environmental engineers and people filling a collage of other occupations — you’ll find them all at Air Force Materiel Command installations scattered across the country.

### Diverse professionals

From the command and control programs work done at Electronic Systems Center, Hanscom Air Force Base, Mass., to envelope-busting test pilots at the Air Force Flight Test Center, Edwards AFB, Calif., the Air Force’s most diverse command equips Air Force warfighters with the high-tech weapons and other tools that keep them second to none on the planet.

But whether it’s unique wind tunnel capabilities at Arnold AFB, Tenn., or programmed depot maintenance at Tinker AFB, Okla., it’s not the lasers, super computers or machinery that keeps America’s warfighters equipped, it’s AFMC’s people and their commitment to integrity, service before self and excellence in all they do.

### All ready to serve

Thinking on AFMC’s response to the recent tragedies in New York and at the Pentagon, as well as the nation’s war on terrorism, AFMC Commander Gen. Lester Lyles said, “I’m very

pleased with how well everyone has fully supported the activities and things we have to do.

“We really are warriors supporting warriors. This doesn’t just apply to our men and women in uniform, it applies to our civilians who are a very important part of this team.”

### AFMC people are...

On any given day, about 82,000 people come to work on AFMC installations. More than 57,000 of those — or about 69 percent — wear suits, lab coats, blue jeans and a variety of other “uniforms” as Department of the Air Force civilian employees. This gives AFMC the distinction of having the largest number of civilian employees in the Air Force.

### In and out of uniform

The remaining 25,000 or so AFMC warriors wear the respective colors of America’s armed forces. Some 29 percent are officers while the remaining 71 percent make up the enlisted corps.

Young, old, officer, enlisted, military, civilian, male and female, AFMC has them all and they all have their own unique stories to tell. This issue of the Leading Edge is dedicated to doing just that.

*AFMC professionals include: (left to right) Maj. Dante Legaspi-AFMC/PKO, Tech. Sgt. Dennis Alford-AFOSI/IM, Mr. Ronald Thompson-AFMC/CSON, Tech. Sgt. Garnette Shepher-AFOSI/DP, Mr. Omi Makhijani-AFMC/CEVR, Senior Airman Elizabeth Michael-88th SFS/SFOA, Mr. Tom Rudolph-AFMC LO/JAV, Ms. Linda Hollen-AFMC/CCY, Ms. Virginia Brown-AFMC/EN, and Capt. Jill Bazele-ASC/CX. (Photo by Ms. Estella Holmes)*



# It's the most wonderful time of the year...

It's the time of year when thoughts turn to "chestnuts roasting on an open fire" and "jack frost nipping at our nose."

Everyone has a favorite holiday memory. Following are just a few of those memories from some of our AFMC family. I hope reading them will invoke a few of your own favorite holiday memories.

— *Ms. Libby VanHook, Leading Edge Executive Editor*

My favorite memory was when we were stationed overseas and decided to spread some holiday joy with the young children in our military community. Dressed as Santa and his elf, we visited the homes of 26 families delivering presents the parents had dropped off earlier in the day. What a delight it was to see the smiles on their tiny faces! We were given enough cookies, milk and hugs to last a lifetime.

— *Ms. Denise Bollinger, USAF Museum*

Ever since Dawn, my twelve-year old daughter, was born, she and I light 50 candles on a slate coffee table, watch the Christmas tree lights and play Christmas music during December. One year I did not feel like getting the candles out, but my daughter was in tears, so I forced myself to get the candles in their holiday positions. I realized how important holiday traditions are in families, so I would say to everyone keep the traditions up. They will be carried down with your children and those around you for generations to come.

— *Dr. Rose Brodersen, AFFTC*

My most memorable Christmas was last year, my first as a husband and father. The previous 13 Christmas holidays overseas assignments took me halfway around the globe from my home and family in Waseca, Minn.

— *Tech. Sgt. Steve Erwin, AFRL*

One Christmas when I was a child, my family decided to buy two Christmas trees, a regular one and a "Charlie Brown" tree. We searched for our Charlie Brown tree and picked the sickliest tree with no needles. Placing it in a bottle, we decorated it with a few ornaments and nothing else. Our Charlie Brown tree lasted until we threw away the regular Christmas tree. My family still laughs when we talk about that tree.

— *Capt. Dean Head, AFOSR*

My favorite holiday memory was the year my father UPS'd a Christmas tree to us at Edwards AFB, Calif. He cut it down from the woods that surround our family cabin by a lake in Black River/Republic, Michigan. It brought back memories of when I was little; each year waiting impatiently for him to come home with our tree. I still remember that tree being delivered with two ornaments of its own: an "agriculture pass" tag on the end, and a pine cone still attached.

— *Mrs. Julie Johnson, spouse of Master Sgt. Dave Johnson, AFFTC*

My favorite Christmas memory was when we lived in the mountains in California. It was snowing and my husband and I took our children out to cut down our Christmas tree. We brought it in, decorated it, had a fire going in the fireplace, sang

Christmas carols and baked cookies.

— *Ms. Joy Johnson, OC-ALC*

My favorite holiday memory is of my Dad coming home from working the night shift in the really early morning hours on Christmas Day. My siblings and I would eagerly anticipate his arrival, because we were able to open one gift. For the girls, that would usually be a doll. We would stay up, play for a while and then go back to bed with our new doll.

— *Tech. Sgt. Elmaria Jordan, AFOSR*

My most memorable Christmas was in 1992 when my parents and I traveled to Thailand. Each day we visited ancient monasteries and temples where the monks kept dozens of Siamese cats as constant companions. My parents, previous owners of two Siamese cats, decided that they really missed having one, and a few weeks after we returned we adopted a 6 week-old Siamese kitten that had been born on Christmas day. For the past eight years, we have celebrated Christmas along with the birthday of our cat, with Thailand always on our minds.

— *Capt. Curtis Kates, AFFTC*

My first daughter, Emily Kate, was born three weeks before Christmas of 1997. Because of a difficult recovery from an unexpected C-section, putting up the holiday decorations seemed overwhelming. One afternoon, while I was napping, my husband decorated the entire house. When I came downstairs — he was sitting under the Christmas tree singing Christmas carols to the baby. His efforts made Emily Kate's and my first Christmas as a mother very special."

— *Mrs. Susan Marticello, Spouse of Capt. Dan Marticello, AFFTC*

One of my favorite memories of Christmas was when my father would hitch up our horse to a homemade sleigh and take all of us out for a ride.

— *Ms. Helen Pittman, OC-ALC*

Christmas is my favorite holiday because everyone is a little nicer to each other and there just seems to be a more peaceful atmosphere.

— *AIC Joseph Schuerger, 311th HSW*

One year my younger sister Kathryn and I took turns staying up to see Santa Claus. We never saw Santa but we saw our parents putting presents under the tree. It was funny watching them try to do it quietly so as not to wake us up.

— *Ms. Christina Smith, OC-ALC*

I remember going to my Grandmother's house for Christmas when I was very young. I remember the old southern style house with a porch that wrapped around it; the anticipation of arriving and seeing other family members; large Magnolia trees cradling the front yard; playing hide and seek in the barn behind the house; and aromas from the kitchen. However, the fondest memory I have is of my grandmother's hugs and kisses.

— *Mr. Ken Smithers, WR-ALC*

# Pro Bowl 50-yard line familiar territory to AFRL engineer

Work and pleasure came together in the form of a Hawaiian vacation for Air Force Research Laboratory's Ms. Barb Frantom, who used her engineering background and love of dance to choreograph an NFL Pro Bowl half-time performance.

A 15-year employee of the information directorate, Ms. Frantom's main duty is to write software for advanced integrated avionics processing systems, and to test those systems in a simulation laboratory.

For example, if a new digital graphics system has been developed for an aircraft, her job is to write the software that feeds information to the new system such as navigation, airspeed, altitude and controlling commands.

Ms. Frantom graduated from Wright State University, in Fairborn, Ohio, which allowed her to study engineering and pursue a long-time interest in dance. She was a member of the Emerald Jazz dance team as a student.

## Making connections

Straight out of college she started her job at Wright-Patterson AFB and began coaching drill teams at a few of the area's high schools.

She landed a spot on the dance team for the Dayton Wings semi-professional basketball team, where, ironically, she made a connection that forever changed the way she looks at a football field.

The parents of one of the girls on the Wings dance squad own All-American Cheer and Dance, and they asked Ms. Frantom to perform at special events.

Based out of Hilliard, Ohio, All-American Cheer and Dance encourages athletic and artistic ability by awarding scholarships to cheerleaders and dancers.

Fast-forward through the years and Ms. Frantom's earlier connection places her on the executive staff of All-American Cheer and Dance.

## Recruiting for the Pro Bowl

She now recruits dancers from all across the United States at various competitions for the opportunity to participate in the half-time performance of the Pro Bowl in Honolulu, Hawaii.

In all, 411 dancers are selected to



*All-American Cheer and Dance perform to a half-time routine choreographed by AFRL's Ms. Barb Frantom during the 2001 NFL Pro Bowl in Hawaii. Ms. Frantom also helps select the dancers from various competitions throughout the United States.*

attend the game.

## One big math problem

Once in Hawaii, Ms. Frantom's job is to teach field formation and prop usage for the predetermined half-time theme. She uses her knowledge as an engineer to transform the football field into a large-scale graph.

"A football field has certain distances which enable you to lay out an entire show. It's all a big mathematical problem — how long it takes and what you can do in certain counts," she explains.

"My background and experience allow me to know how many counts it takes to get from here to there."

According to Ms. Frantom, she spends about three hours in her room, color coordinating the show and dividing it among the groups.

She says the system makes it easy for the kids and helps them get the program more quickly, allowing for more time on the beach.

"We practice probably about 10 times in two to three hour blocks during the course of the week leading up to the show," Ms. Frantom said.

## Sweet rewards

In addition to the Hawaiian trip, Ms. Frantom's reward is the positive environment created for the kids. Every year All-American Cheer and Dance awards more than \$50,000 in scholarships to help with educational costs.

She recalls that dancers have gone on to perform with the Radio City Music Hall Rockettes, work as a dance captain for the Broadway hit River Dance, and make the University of Kentucky cheer-leading squad.

## Juggling jobs

In addition to her full-time job and work with All-American Cheer and Dance, Ms. Frantom is a wife, new mother and the drill team coach at Wayne High School. As the Warriorettes' coach, she choreographs a different half-time show for each home game.

"As soon as we go to Hawaii at the end of January, I like everything to be done," Ms. Frantom said. "Then when I come back I should have a couple of months off before drill team tryouts start again."

— Ms. Jill Bohn, AFRL Public Affairs



# Still sharp at 108

## A salute to the oldest living pilot

One reason Mr. William “Bill” Crooks recently visited Wright-Patterson Air Force Base, Ohio, was his induction as a founder in the Frank P. Lahm Flight 9 Order of Daedalians. He was so honored because at 108 years old, he’s the oldest living military pilot.

Another reason was that coming here was a return visit for him. He’d been here before — in 1917.

Mr. Crooks joined the Army Signal Corps as a mechanic, stationed at Kelly Field, Texas. Soon after, he and 100 others were sent here to the Fairfield Air Depot, later Patterson Field, and enticed to become pilots. “There were no runways here and pilots just landed against the wind,” he recalled.

### From the farm to the airfield

Born in 1893, Mr. Crooks grew up on a farm about 75 miles from Kansas City in Missouri.

“Life on the farm was hard,” he said. “We had ‘two horsepower,’ meaning we had two horses. We also had manpower. We sawed wood, carried water, fed the animals and so forth.

“Every evening after supper, we gathered in the living room and my father would read the paper. One day my father had the St. Louis Globe-Democrat and read an article about Wilbur and Orville Wright — that they’d built a contraption that flew. That’s when I decided what I wanted to do, and 15 years later my dream was fulfilled.”

Mr. Crooks recalled that in the years preceding U.S. entry into World War I, there were rumors of war. “President Wilson got elected because he said he’d keep us out of the war,” he said. “But the Germans sank every ship going to Europe so no supplies could go there. They sank the Lusitania that had 1,000 Americans on board. In three days we declared war.

### One of the first to answer the call

“Impatient to be drafted, I joined. First, the Signal Corps, then I learned the military needed pilots. So, I applied in 1918, and went to ground school in Austin, Texas. Each class was 10 weeks. Twenty percent didn’t make it through training.”

The first time he was in an airplane, Mr. Crooks recalled, “I thought I could fly one of these things. The instructor did all kinds of stunts, landed and then took me to the starting place.

“He told me to take off. I was sick, but I put my teeth together and started bouncing across the field. I saw the high-tension wires on the other side of the base getting closer and closer, and I kept bouncing, but I thought I could take off, so I did.

“The instructor took over after we were airborne, but he had me land the airplane. After a week, you’d get into a groove. You’d come down and hit the center of the field.”

Mr. Crooks earned his pilot’s silver wings in October 1918. “I’ve never been more proud of anything than to wear those wings” he said. “Before I got them, I had to make a figure-eight in the air.”

After primary training, Mr. Crooks chose to fly bombers because, “I wanted big airplanes, the Capronis and DeHavillands,” he said.

He described how the bombers would get four terra-cotta practice bombs attached to their wings and how they were

equipped with shotgun shell mechanisms to make it easier to track exactly where the bombs hit.

He also praised the later development of the Norden bomb-sight used in World War II.

“You’d set the air and ground speeds along with the altitude, and it was amazingly accurate,” he said.

The war ended with the signing of the armistice on Nov. 11, 1918. Mr. Crooks was stationed at Ellington Field, Texas. He never got overseas after learning of the war’s end.



*Mr. William Crooks answers questions asked by the media during his visit to the Air Force Museum. Mr. Crooks was at the museum for his induction as a founder in the Frank P. Lahm Flight 9 Order of Daedalians. At 108 years old, he is the oldest living military pilot. (Photo by Mr. Spencer P. Lane)*

Discharged in January 1919, Mr. Crooks chose a degree in mechanical engineering and went to work for Fairbanks-Morse in Wisconsin designing diesel engines. He remembered getting “experience in every department there.”

In 1936, he joined Cooper Bessmer in Grove City, Pennsylvania, for which he obtained 30 patents and remained until compulsory retirement in 1961, continuing on as a consulting engineer there for three years. In 1964 he moved to Washington, D.C., where he resided for three years before moving to Ohio.

### Good and bad news

Although Mr. Crooks said he isn’t always able to keep up with the news today, he commented that he was “proud that the civilized world is going after the terrorists. It reminds me of history in which pirates would capture vessels, and the United States would have to put the pirates out of business. That’s what we’ll have to do today.”

Asked about how he achieved such a long life, he replied, “When something gets broken, get it repaired. Don’t wait.”

— Mr. Mike Wallace, ASC Public Affairs

# Brooks 'Unsinkable Molly Brown' inspires hope with rags to riches story

**M**s. Sydney Powell is one of those rare individuals who possesses unshakable optimism in the midst of adversity — you can set her on fire and she will thank you for giving her a glowing personality.

She has become a version of the “Unsinkable Molly Brown” at Brooks Air Force Base, Texas, as a consequence of a rags-to-riches story that has a happy conclusion in her early civil service retirement.

A week before Christmas 2000, this career Air Force personnel officer lost everything she owned in a house fire. She learned afterward that their house insurance had expired. All she needed to put the finishing touches to her misfortune was lose her job. Her job was later declared surplus and will be abolished.

## Finding the positive

“You look for good in everything, no matter how bad things may seem. The fire brought our family together,” admits Ms. Powell, Brooks Civilian Personnel Office’s employee relations specialist.

Her nightmare was the beginning of a seemingly supernatural journey that has a fairy tale ending. It began on a freezing early winter morning at Ms. Sydney and Mr. Corky Powell’s 25-acre ranch located between Stockdale and Seguin, Texas.

At 2 a.m., the regulator atop their water heater exploded. Within minutes fire was racing through their mobile home. Adding to their torment, an ice storm had knocked out their electricity and phone.

“The fire was fed by a propane tank that had just been filled,” she said, noting that they couldn’t find a wrench in the darkness to turn off the tank.

## Nothing fails but a try

Clad in pajamas and walking in bare feet on icy ground, the couple scrambled frantically for water to fight the blaze. Unfortunately, their water hoses were frozen. Sydney found water in her dogs’ steel water bucket that she carried a few feet before tripping in a hole her dogs had dug. She landed on her face, spilling most of the water. Trying to douse the fire with what remained was futile as her husband soaked himself in the freezing night.

“I felt like we were on the Titanic,” Ms. Powell lamented, not knowing that the real ‘Unsinkable Molly Brown’ had survived that shipwreck and afterwards, like the Powells, would thrive.

Ms. Powell decided to save some of her family’s prized possessions, including vintage rifles and shotguns and her son’s laptop computer and guitar. She managed to toss these items out the front door.

“When I first went in, the smoke was curling down the hallway toward me, hugging the ceiling. I thought at the time, ‘I can beat this’,” she recalls. She nearly succumbed to the toxic smoke. “I tried holding my breath, but I started choking. I didn’t stop choking for six or seven days.”

Realizing they needed help, she dashed to her son’s camper a 100 yards away, grabbed his van keys and drove off to the near-



*Ms. Sidney Powell with her late horse, Summit. Fire gutted the Powell’s mobile home the week before Christmas 2000. Their home is located about 25 miles south of Brooks AFB, Texas.*



est neighbor, only to find their gate locked. She subsequently stunned a second neighbor with her relentless horn honking, prompting the frightened couple to call 911.

When she returned, she saw her husband attempting to enter their burning home. "I yelled, 'don't go in there.' I sank to my knees and cried. I thought I wouldn't see him alive again." It was the only time in her life with her husband that she lost hope.

Fear suddenly gripped her. She knew the fire was beginning to melt the few things she did save. At that moment, a closet full of ammunition exploded. "It was like firecrackers going off," Ms. Powell said. She dodged a hail of gunfire while retrieving the scattered items.

## Life reeling out of control

At daybreak, the smoldering pile of debris framed an undeniable reality. Everything was lost. Gone were Christmas gifts and irreplaceable personal treasures such as two matched antique saddles the couple had used during their "horseback" wedding.

"I was in shock. I didn't talk to anybody for two weeks," she admits. Possessions to her no longer were important. "I thought, 'I don't want to accumulate things anymore. I just want to make my son and husband happy. I vowed not to spend money on myself, but only on my family.'"

She also learned how many friends she had. Brooks and Randolph AFB employees and her husband's co-workers donated several thousand dollars. Appliances, furniture, food and clothing were trucked in to their homestead, which now consisted of their son's tiny camper. "There was an outpouring of support from a lot of people we didn't know. It was fantastic."

This support paled in comparison to other incredible events, beginning with post-fire discoveries. "It's amazing and kind of mysterious how things that meant so much to me were not damaged at all." Surviving the fire were her true treasures: a lock of her mother's hair tucked inside an envelope found in a charred trunk, and her mother's handmade childhood doll found in a plastic ziplock bag. A postcard from an aunt who had sent the doll to her following her mother's death also survived.

## Glimmers of hope

These were subtle signs of hope, magnified a few months later through a gift inherited from her mother.

"My mother owned an interest in two gas wells that had dwindled in production to \$35 a month." The Rio Grande Valley wells were located on two ranches the family had once owned. Around February 2001, the Powells negotiated a lease with a new company that used advanced technology to drill another well there.

"They hit one of the largest pockets of natural gas ever found in Texas," Ms. Powell said, noting another new oil well they own will produce enough wealth to support future generations.

Philosophical about her windfall, she said, "Money doesn't solve problems, but it's the struggle that brings us together. We're rewarded by making right choices that bless our lives."

The fire also changed Sydney's perspective on life.

"Nothing is important, except for the people we love. I really don't miss what I lost. I didn't lose hope, because I had my husband."

The tragedy also renewed her faith.

"I came out of that fire knowing I'll never doubt again."

— Mr. Rudy Purificato, 311th HSW



*A Special Wish Foundation recipient, Jenna Minges is entertained by Top Flight during a recent visit to the Albuquerque Balloon Fiesta. (Courtesy photo)*

## A "special wish" for Jenna

Suffering from a disabling and potentially fatal genetic disorder, the 8-year-old daughter of an Air Force employee from Wright-Patterson Air Force Base, Ohio, recently attended the Albuquerque Balloon Fiesta under the auspices of A Special Wish Foundation.

Jenna Minges was born with a rare genetic disorder called 10-Quarter Deletion Syndrome that has led to severe heart defects. She told the Columbus, Ohio-based foundation that her fondest desire was to attend an event that featured hot-air balloons. The Albuquerque fiesta was chosen because it is the largest of its kind in the world.

Jenna's father, Mark, works for the Air Force Research Laboratory's Information Directorate. One of the laboratory's sister units, the Directed Energy Directorate at Kirtland AFB, N.M., and Kirtland's Airborne Laser System Program Office helped host Jenna and her family while in the area. The airborne laser, which has its own hot-air balloon, also took Jenna aloft during her visit.

While at the balloon fiesta, Jenna attended several events, including the opening day mass ascension where more than 700 balloons were launched. She was also honored by Top Flight, an ensemble from the Air Force Band of the West at Lackland AFB, Texas, who recognized Jenna on stage and dedicated a selection to her.

In addition to attending the week-long balloon fiesta, Jenna and her family toured several southwest sites and are scheduled to view the firing of a 15,000-watt research laser at the laboratory's directed energy directorate.

The 10-Quarter Deletion Syndrome, named because victims have an abnormal 200-plus genes on the Q leg of chromosome Number 10, manifests itself in a number of heart defects. Jenna did not walk until she was 3 and, at 38 pounds, physically resembles a child at age 4 or 5. Her long-term fate is undetermined but medical articles indicate that individuals with the disease often do not live beyond their 12th birthday.

The foundation, with 81 chapters in the United States and 22 others abroad, grants the wishes of children with life-threatening illnesses in an attempt to enrich their lives.

— Mr. Rich Garcia, AFRL Public Affairs

*"If I could go back in time, I wouldn't change anything," Mr. Thomas Dillingham said about his 53 years of government service. Mr. Dillingham was thanked for his contribution to the flying mission of the United States during a retirement ceremony recently held in the Engine Test Facility at Tinker AFB, Okla. (Photo by Ms. Margo Wright)*



## Tinker man looks back over 53 years of service

**A** Tinker Air Force Base, Okla., civilian said goodbye to more than half a century of federal service recently when he retired. Music from the swing era was in the air as Mr. Thomas Dillingham was honored for 53 years of service.

### Moved but stayed flexible

Mr. Dillingham started his career Nov. 6, 1951, as a forklift operator at Olmsted AFB, Pa. He moved to Tinker in January 1966 where he served 34 years. After several job changes, he finished his long career as an aircraft engine mechanic in the engine final preparation subunit.

Maj. Gen. Charles Johnson II, installation commander, said Mr. Dillingham was a legend in the propulsion management directorate and a "sterling example of work ethic."

When he was 15, "Tom started working in the blanket factory where his dad worked," Gen. Johnson said. "This was in the midst of a terrible and frightening

economic depression, the worst our country has ever seen."

Mr. Dillingham entered the U.S. Army when he was 24 years old as World War II was raging. "Tom's contributions to the flying mission of the United States began long before he became an aircraft mechanic here at Tinker," Gen. Johnson said. "Tom, to say we will miss you is truly an understatement. I just wish these young people we hope to recruit as our Tinker workers of the future could meet you and talk with you."

### The opportunity to work

For 20 years, Mr. Dillingham worked on 11 different jet engines — J-57, J-75, J-79, TF-41, TF-33, TF-30, F110, F101, F118, F100 and F108. "Someone asked Tom what was the most important thing that ever happened to him at Tinker and he said, 'Being able to work on jet engines. I like working on jet engines.'"

Mr. Dillingham was a jet engine mechanic at Tinker when Gen. Johnson

was a C-141 flight examiner and pilot at Travis AFB, Calif. "You were supporting me then as you have been since I arrived at Tinker last year — giving your very best to the Air Force as a skilled jet engine mechanic.

### Ready to move on

"I thank you with all my heart for your remarkable contributions to the United States Air Force, to our country and to Tinker Air Force Base," he said.

Gen. Johnson looked at Mr. Dillingham and said, "I hope you're ready." Mr. Dillingham nodded and the retirement orders were posted.

In a speech read for Mr. Dillingham by one of his friends and co-workers, he expressed his thanks. "I want to thank God for giving me these many, many years. I'd like to also thank my wife, Elizabeth, for putting up with me and standing by me and supporting me. Then, I'd like to thank Gen. Johnson for this great, great send off.

"I want to thank all of you for your support and your encouragement through these years," Mr. Dillingham said. "I've enjoyed the time that I've spent here. If I could go back in time, I wouldn't change anything. I have met some wonderful people, many of whom are standing in this room today, and to all of you I want to say thank you for the memories.

"But now it's time for me to move on — to take some time out for myself and my family. I wish all of you success and, above all, God's blessings."

### On to more than fifty years

Mr. Dillingham said when he first came to Tinker from Pennsylvania, he didn't think he was going to like it here very much. He didn't think he would "be here two days. Then, I met the people and this little lady — Elizabeth, and there was no way I was leaving."

Mr. Dillingham said the thing he would miss most about Tinker is the people. "We had a lot of fun doing our work."

The Dillinghams plan to do some traveling — first back to Pennsylvania to see his "people" and then to parts unknown. But his advice to co-workers, new members of the work force and the friends he's leaving behind was, "Keep on working, because I did my part."

— Ms. Gail Kulhavy, OC-ALC Public Affairs



# Hill honor guard presents colors during 2002 Olympics

"For most reserve members it means shuffling work and family schedules to accommodate practice time and short notice details. But the rewards are immense, it makes it worth it," said Sgt. Walker.

Three members of the Reserve's 419th Fighter Wing, Hill Air Force Base, Utah, honor guard will be part of the 2002 Winter Olympics award ceremonies in February.

As part of the awards presentation, the flag of each medal winner's country will be raised by a team of Hill honor guard members. One of the three seven-member teams will include 419th Honor Guard representatives, Master Sgt. Rulon Walker, Tech. Sgt. David Graham and 419th Honor Guard non-commissioned officer in charge, Senior Master Sgt. Scott Hennessy.

## An encore

Sgt. Walker and Sgt. Graham were among members of the Hill Honor Guard that raised the national flags for medal winners at the figure and speed skating world qualifying championships last fall.

The Salt Lake Olympic Organizing Committee was impressed by the team's performance there and requested its return for the Olympics, said Staff Sgt. Mike Harden, non-commissioned officer in charge of the base honor guard.

"It's going to be quite the experience," Sgt. Harden said. "We're going to be there among the athletes, it's really exciting."

## The shuffle and the reward

These kinds of rewards make participation in the honor guard worthwhile, said Sgt. Walker, who has participated in nearly 70 events since joining the honor guard more than a year ago. For most Reserve members, it means shuffling work and family schedules to accommodate practice time and short-notice details. But the rewards are so immense, it makes it worth it, he said.

"This is a really unique opportunity. That's one of the things about being on the honor guard," he said. "You get to meet people and see things you wouldn't be able to otherwise."

## The detail mix

Veteran funerals and retirement ceremonies make up about half the details he's participated in. He's also found himself

involved in parades, Boy Scout ceremonies, Independence Day events, memorial unveilings and now, Olympic award ceremonies.

"Every detail is different," he said. "It never becomes old hat."

## Always new

As the world watches, the honor guard, dressed in the warm-up suits of Olympic volunteers instead of their formal uniforms, will march out for each ceremony with the flag that represents the winner's country and position them on posts.

## The moment

"You have to do it just right or the flags will sway," Sgt. Walker said. "You don't want that."

But he said he's not nervous.

"You get to where instead of 'Oh, I hope I don't mess up,' you're just concentrating and enjoying yourself," he said.

— Senior Airman Lara Gale, 419th FW Public Affairs



Master Sgt. Rulon Walker, Tech Sgt. David Graham and Senior Master Sgt. Scott Hennessy, part of a Hill Air Force Base, Utah, Honor Guard team who will perform during the awards presentation at the 2002 Winter Olympics. (Photo by Ms. Stephanie Johns, OO-ALC)

# Oklahoman wins two hearts after war

A boy from Oklahoma courted his hometown sweetheart before serving in World War II, and after the war his love affair blossomed. He had no way of knowing a different kind of heart would be presented to him almost 56 years later.

Mr. Merle Hasenfratz and Ms. Elenora Heppler became friends while growing up in Perry, Okla. They both grew up on farms located close by, and they spent much of their time together. But before anything serious would happen between the two, Mr. Hasenfratz moved to California where he found work at a shipyard in Vallejo. The couple kept in touch through letters.

## Signing up

World War II was raging in Europe and the country's effort to support the war was widespread. Mr. Hasenfratz decided it was time to enlist. In March 1943, he attended basic training at Fairfield, Calif., now known as Travis Air Force Base.

After he enlisted, Sgt. Hasenfratz was unable to write to Ms. Heppler as often as he would have liked, so he relied on his mother to pass along information about his whereabouts to his girl at home.

He was trained on the B-17 and B-24 weapon systems and graduated technical training as an aerial tail gunner. His aircrew eventually landed in Wendling, England, where they prepared for the hectic and dangerous routine of bombing the enemy's homeland.

April 24, 1944, Sgt. Hasenfratz's crew showed up at 4:30 a.m. to gear up for its seventh mission along with 25 other bomber crews. Sgt. Hasenfratz learned that there was an airstrip in Leipheim, Germany, to be taken out. He and his crew were given a shiny, new B-24 and told to execute the mission in broad daylight. Sgt. Hasenfratz had an eerie feeling that he and his crew were doomed, and that he may never see his girlfriend again.

## A survivor

Sgt. Hasenfratz's crew dropped its share of the 100-pound bombs onto the German airstrip. They were returning when they were hit by anti-aircraft artillery fire, cutting the airplane in half. The front section exploded into flames and the tail section spun out of control toward the ground. Sgt. Hasenfratz was in the tail section as it impacted.



*Top: Sgt. Hasenfratz and Ms. Elenora Hasenfratz. Below: Staff Sgt. Merle Hasenfratz is presented a Purple Heart from Brig. Gen. Ben Robinson. (Courtesy photos)*

Miraculously, he survived.

Back home, Sgt. Hasenfratz's mother would tell his girlfriend stories about what Merle was doing so she wouldn't worry about him. Then one day, his mother received a telegram. He had been shot down. Shortly after, she received another that said he was taken prisoner.

For months, Ms. Heppler had no contact with Sgt. Hasenfratz. Even though she wrote many letters, he didn't receive any of them. Over time, Ms. Heppler and her family slowly gave up hope.

"I buried him in my mind," she said.

Sgt. Hasenfratz was taken prisoner almost immediately after being shot down. His captors beat him with the butts of their rifles and took him to a camp in Brussels, Belgium.

"There was very little food to eat. I became very malnourished," he said.

During his time as a POW, Sgt. Hasenfratz witnessed life and death in

extremity. "At times, the Germans would put us in railroad boxcars," said Sgt. Hasenfratz.

In order to fit as many prisoners as possible, they stood side-by-side. Sgt. Hasenfratz said they had "no food or drink and no way to use the bathroom for days on end.

"We were all sick with dysentery," he said. "On some of the transfers, my hands and feet became frozen because it was so cold."

Sgt. Hasenfratz was liberated April 29, 1945, after a year and five days in captivity. When he was captured he weighed 143 pounds; when released he was down to 104 pounds. Sgt. Hasenfratz had served his country, endured more than most, and now it was time to go home.

## Sweet reunion

On Father's Day 1945, Ms. Heppler was at the well when she saw a car kicking up dust down the road. She recognized it as Merle's father's car. She prepared herself for the worst and ran to greet the vehicle. As the car rolled to a stop, Sgt. Hasenfratz stepped out.

"Right then and there I fell in love with him all over again," she said.

Ms. Heppler turned 16 in June. Her father, seeing how in love they were, gave his blessing for his daughter to marry. They celebrated their 56th anniversary this year.

## Final reward

For years, Sgt. Hasenfratz lived a quiet life and built his family. Still suffering from some wartime injuries, Sgt. Hasenfratz found out he was eligible for a Purple Heart after a doctor's exam. In 1996, Congress changed the rules of eligibility to include World War II POWs who were mistreated by their captors. Sgt. Hasenfratz's first reaction was to ask if it could be mailed to him, but he later agreed to a small ceremony.

In August, nearly 56 years after having walked out of the concentration camp, Sgt. Hasenfratz stood among family and friends, as Brig. Gen. Ben Robinson, 552nd Air Control Wing commander, presented him his Purple Heart.

"It's about doing the right thing, and today the Air Force is doing the right thing," said Gen. Robinson.

— 2nd Lt. Herbert McConnell, 552nd Air Control Wing Public Affairs





## High school honors "graduating" veterans

**M**ore than two dozen men who set their education aside to defend freedom during World War II gathered in caps and gowns at Capitol Hill High School in Oklahoma City in October for a graduation ceremony 50 years in the making.

These men, who traded their pencils and textbooks for guns and sea bags, graduated high school courtesy of a new law authorizing school districts to grant a diploma to all qualifying World War II veterans.

When Mr. James Paschall, Capitol Hill principal, heard of the legislation, he said he enlisted staff members Ms. Denise Watts, Teen Outreach coordinator, and Lt. Cmdr. Murry Estabrook, Capitol Hill Navy Junior Reserve Officer Training Corps commander. They immediately went to work finding out how many Capitol Hill alumni the law affected and planned the ceremony.

Brig. Gen. Loren Reno, Oklahoma City Air Logistics Center vice commander, was the event's keynote speaker.

"The Declaration of Independence says, 'We hold these truths to be self-evident, that all men are created equal, that they are endowed by their creator with certain unalienable rights, that among these are life, liberty, and the pursuit of happiness.' There are men in this room today who gave up those rights to make sure future generations retained them," Gen. Reno said.

"They put their lives at risk, jeopardized their liberty and, for a period of time, thought far more about survival than they did about pursuing happiness. They gave up their youth, their dreams, and what comforts they had to fight for America."

Standing straight and tall, members of this special graduating

class made their way on stage to receive their diplomas. While most were able to walk across the stage, others required assistance.

For a few moments, regardless of physical limitations or perhaps a fading memory, it seemed obvious to those family members, friends and students attending that these men were proud to have served their country and grateful for recognition long overdue.

Members of the Oklahoma City School Board accepted the class and presented diplomas. Among those in the receiving line was Sen. Jim Reynolds whose father, Mr. Jack Don Reynolds, received a diploma.

"I didn't know until last week that my father had never graduated," said Sen. Reynolds, who tearfully embraced his father on stage. Sen. Reynolds had helped sign Bill 129 into law without realizing it would affect his own family in such a way.

Capitol Hill students showed their support by attending the ceremony during their fall break. Senior Class President Ms. Charlena Kennedy gave opening remarks and other students provided special music. Junior ROTC cadets posted colors and saluted each veteran as they approached the stage.

"Gentlemen, we owe you more than we can ever repay," Gen. Reno said and saluted the graduating class of 2001.

After the ceremony, Gen. Reno greeted each graduating class member and listened as they spoke of their experiences and service to their country that ranged from Pearl Harbor to the surrender of Japan.

— Ms. Rhonda Lugo, OC-ALC Public Affairs



Photo by Mr. Kevin Robinson, AFFTC

**Col. Chris Seat, F-22 Combined Test Force director at Edwards Air Force Base, Calif., introduces retired Brig. Gen. Chuck Yeager to the F-22 during a recent visit.**

### Aviation legends visit the future at test pilot school

EDWARDS AIR FORCE BASE, Calif. — Retired Brig. Gen. Chuck Yeager teamed up with fellow flight test pioneers, including retired Maj. Gen. Joe Engle to visit the U.S. Air Force Test Pilot School here recently.

Gen Yeager and the pioneers shared with students attending the school's aerospace vehicle test course flight test experiences from the X-15 test program to the Aerospace Research Pilot School to breaking the sound barrier. School staff and members of the junior and senior classes also attended the open forum where it was emphasized that plenty of records remain to be broken.

— Information provided by AFFTC Public Affairs

### Robins Enlisted nurse one of first in the Air Force

ROBINS AIR FORCE BASE, Ga. — Staff Sgt. Christopher Danko of the 78th Medical Group here became an Air Force medical service pioneer when he graduated in the first class of medical technicians to complete a new accelerated Enlisted Licensed Practical Nurse Program in San Antonio, Texas.

Sgt. Danko, an emergency room medical technician, was among an elite group of 23, selected from more than 60 applicants. They attended classes three days a week at St. Philip's College and underwent clinical training twice a week at Wilford Hall Medical Center at Lackland AFB, Texas.

The program was initiated by Air Force surgeon general Lt. Gen. Paul Carlton Jr., and assistant surgeon general for nursing services Brig. Gen. Barbara Brannon, who wanted to offer enlisted medical technicians a marketable skill they could use inside and outside the Air Force.

To achieve their licenses, students completed nursing courses in medicine, surgery, obstetrics, pediatrics and mental health. They must successfully pass a national practical nurse licensing exam.

For their studies, the medical technicians earn 30 college credit hours in practical nursing. Several registered nurse programs offering associate degrees accept the majority of the college credit hours earned from the new program.

— Information provided by 78th ABW Public Affairs

### Patents for technology detect wiring problems

ROME, N.Y. — The U.S. Patent and Trademark Office issued two patents to Air Force Research Laboratory for technologies that help preempt catastrophic aircraft system failures by detecting wiring problems before they fail.

Cable chafing and connector corrosion are both age-related and can cause problems as the fleet ages. The patent for detecting of conduit chafing utilizes a simple sensing technique to monitor chafing in electrical and hydraulic conduits that can lead to air failures.

The patent has been licensed to Kildeer Mountain Manufacturing Co. of Kildeer, N.D.

A second patent, issued to personnel from SEMTAS Corp. of Annandale, Va., addresses the problem of corrosion on electrical connectors which is probably the leading cause of system malfunctions.

— Information provided by AFRL Public Affairs

### AFRL displays inspection system at Russian airshow

WRIGHT-PATTERSON AIR FORCE BASE, Ohio — Mr. Charles Buynak, an engineer from Air Force Research Laboratory Materials and Manufacturing Directorate, explained the mobile automated scanner inspection system to U.S. Ambassador to Russia, Mr. Alexander Vershbow, during the Russian Aerospace Agency's MAKS' 2001 Airshow in Zhukovsky, Russian Federation.

Mr. Buynak ran an interactive, hands-on display of the inspection system, using a composite panel with simulated defects. Multinational visitors could examine the system in operation and see the broad array of structural integrity information an operator is able to gather during the inspection process. This was the first time Defense Department participants appeared at MAKS'.

— Information provided by ASC Public Affairs

### F-15s mark 29 mishap-free years

EDWARDS AIR FORCE BASE, Calif. — Lt. Col. Bill Thornton, commander of the 416th Flight Test Squadron, touched down at Edwards Air Force Base, Calif., Oct. 11, marking more than 40,000 hours and 29 years of F-15 sorties with no Class A or B mishaps.

The F-15 Eagle began testing at Edwards in July of 1972. Since then, test pilots and flight test engineers at the flight test center have evaluated a host of cutting-edge technologies that continue to improve the fighter's combat capabilities.

The safety and technical review processes developed and administered by

the people of the test wing and flight test center is thought to have directly contributed to this milestone."

Along with the flight safety record, the combined test force also takes pride in the Eagle's impressive combat record, 101 kills to zero losses.

— Information provided by AFFTC Public Affairs (Photo by Mr. Phil Kocurek)





# Edwards readies for testing next generation's fighters

The competition is over but preparations to fully develop the Joint Strike Fighter are in full swing at the Air Force Flight Test Center, Edwards Air Force Base, Calif.

The government's recent selection of Lockheed Martin as the prime contractor allowed the JSF to enter its next acquisition phase - system development and demonstration. This phase will evolve the fighter, now known as the F-35, from a concept demonstrator to a combat-capable fighter aircraft.

According to Mr. Joe Dowden, the JSF site and integrated test force director, initial plans call for 14 test aircraft to be built, with seven going to Edwards and seven going to Naval Air Station Patuxent River, Md. Both sites will serve as principal testers for the demonstration, as well as conduct testing on all of the JSF variants and foreign versions.

Lockheed Martin's aircraft designs for the Air Force, Navy, Marine Corps and United Kingdom will be developed during the next 48 months, and Edwards will receive the first aircraft in late 2005.

## Building a test force

With the 10-and-a-half year contract awarded, Mr. Dowden is starting to build up the integrated test force at Edwards while working closely with his counterparts in Patuxent River. Both will support a three-phased block approach to evolve the aircraft's mission capabilities.

The first block of testing includes evaluating of the aircraft's airworthiness, its ability to carry internal weapons and its envelope expansion qualities.

The test program encompasses more than 46 different weapon configurations and associated mission systems capabilities. It also includes operational testing based out of Edwards by Air Force and Navy operational testers beginning in 2010.

"Our developmental, demonstration test and evaluation challenge now is to improve our joint processes between Edwards and Patuxent River Naval Air Station so developing and demonstrating we ensure seamless testing of the Air Force, Navy, Marine Corps and the



*Lockheed Martin's X-35A Joint Strike Fighter concept demonstrator lands at Edwards after its first flight Oct 24, 2000. The X-35 was selected over the Boeing X-32 Oct. 26, just two days after the anniversary of its first flight. (AFFTC photo)*

United Kingdom variants on the West and East Coasts," Mr. Dowden said. "All this will be necessary to get the JSF aircraft to the warfighters on schedule, with the capabilities they will need for future defense of our national interests."

## Looking for a test force

The test force, made up of military personnel, government engineers and prime contractors, is expected to grow to more than 600 people as developmental testing accelerates, Mr. Dowden said.

Operational testing, using Edwards as the principal site, could bring the combined total of developmental and operational testers to more than 1,000 by 2009, he added. "There's no doubt we will be looking for civilian and military flight test engineers as well as test pilots," he said.

The test force is also planning to receive more than \$30 million in military construction funds to renovate and add facilities that will support and house the JSF test fleet, according to Mr. Dowden. Future funding includes \$20 million planned for 2004 to support developmental testing with an additional \$10 million planned for 2008 to support operational

testing, he said.

The Air Force will be the largest JSF customer, purchasing 1,763 of the conventional takeoff and landing versions of the aircraft. The Air Force version is designed primarily for air-to-ground combat and to replace the F-16 and A-10 and to complement the F-22.

Boeing and Lockheed Martin were each awarded contracts to compete in the concept demonstration phase of the JSF program in 1996.

Both began flying their concept demonstrators, the X-32 and the X-35 variants respectively, at Edwards in the fall of 2000.

The JSF X flight test program was completed in August with the last flight test mission of the X-35B and its ferry to the Lockheed Martin facility in Palmdale, Calif.

"This last flight closed out the most successful X demonstration flight test program in this nation's history during which many aviation firsts were achieved and new test and evaluation benchmarks set," Mr. Dowden said.

— Ms. Leigh Anne Bierstine, AFFTC Public



# F-22 launches guided missile proving combat capability

**T**he F-22 Combined Test Force at Edwards Air Force Base, Calif., recently completed another major program milestone.

Air Force Test Pilot Maj. Brian Ernisse launched a guided AIM-120 Advanced-Medium-Range Air-to-Air Missile and successfully scored a lethal “hit” on an unmanned target aircraft.

The missile flew within lethal range of the target and, from preliminary data analysis, was assessed a kill.

The test, using Raptor 4005, proves the aircraft’s avionics suite can track and destroy a target.

## Key attributes

According to F-22 Combined Test Director, Col. Chris Seat, the integrated avionics and situational awareness the system provides is one of four key attributes that make the F-22 better than any fighter in the world for the foreseeable future. The fighter’s other attributes are stealth, super cruise and agility.

“This first guided missile launch shows the avionics system is well on the way to supporting F-22’s ability to find and identify an adversary, shoot before the adversary and obtain the kill,” Col. Seat said. “We call this ‘first look, first shoot, first kill,’ and this capability will ensure the United States has the overwhelming advantage in any future potential conflicts.

“We hope an adversary’s knowledge of the awesome capabilities of the F-22 would be enough to deter any threatening

actions, but if engaged we don’t want a fair fight, we want to win decisively,” Col. Seat added.

## Exceeding capabilities

Maj. Ernisse performed the flight test over the Pacific Missile Test Range that runs along the southern California coastline. It was conducted at approximately 40,000 feet at subsonic air-speed.

While details of the test profile remain sensitive, the aircraft’s performance continued to exceed the capabilities of all other fighter aircraft in use.

“With each flight test we are proving the awesome capabilities

of the F-22, and there is no doubt this aircraft will provide the United States military with a huge force protection advantage for decades to come,” Maj. Ernisse said.

## Making progress

The combined test force at Edwards is currently

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***“With each flight test we are proving the awesome capabilities of the F-22, and there is no doubt this aircraft will provide the United States military with a huge force protection advantage for decades to come.”***

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**Maj. Brian Ernisse, AFFTC test pilot**

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testing five F-22s.

Since the start of testing nearly three years ago, the F-22 test program has flown more than 1,375 hours and completed more than 610 flight test sorties.

The test team at Edwards is focused on continuing envelope expansion and avionics suite verification, as the aircraft’s next flight test objective.

— Ms. Leigh Anne Bierstine, AFFTC Public Affairs



## Product support

# Mechanic's vision improves turnaround time on C-130

*C-130 Hercules air scoop repair times have been cut in half thanks to a Robins Air Force Base, Ga., sheet metal mechanic borrowing a spot welder from a friend at a downtown auto body shop.*

Mr. Tommy Nelson was visiting his friend when he saw a tool he felt would be useful back in the sheet metal shop where air scoop repairs usually take about two weeks to finish. The C-130 air scoops, located underneath the engines, serve as the aircraft's main air intake.

### He had a vision

Mr. Nelson got permission and took the spot welder to work with him and gave it a test run. Now, with a little vision from Mr. Nelson and Mr. Joey Westaway, another sheet metal mechanic, turnaround time for the scoops has been cut in half.

After a few days of working together, the two men called in someone from the shop's engineering section to look at the new process. They approved it.

Mr. Walter Kinard, sheet metal mechanic and group spokesman, said when C-130 air scoops arrive at Robins for repair they're often dented from the wear and tear of flight.

"Previously, to repair the scoops, we had to drill a hole

in the dents and pull them out with a tool called a body puller," he said. "Then the scoop would have to be sent to the plating shop to be cleaned, then to welding and then back to plating. This process alone took between three and five days."

Mr. Kinard said with the new spot welder, workers weld a copper peg onto the scoop, and with a different type of body puller, pull the dents out without ever having to drill a hole.

This is good for two reasons — it keeps the part from being sent out and having to wait for it to return, and it prevents workers from damaging the scoop by drilling holes in the aluminum.

"Because of the interior of the scoop, it can be easily

damaged by drilling holes," Mr. Kinard said. "Therefore, eliminating the drilling is not only keeping it from having to be welded, but also keeps the interior from being damaged."

### Doing their part

Mr. Kinard said he and his crew are doing everything they can to support the warfighter. "This is our little part, and we take pride in what we do."

"There's a lot out there that can make the job easier. The name of the game is a good, quality product," Mr. Nelson said.

The finished product leaves the Robins sheet metal shops and goes to the field, to C-130s on the base and on the shelf to help with supply.

"We've had a work load where we couldn't meet the demand. Now we are catching

up and filling the work orders," Mr. Kinard said. "It's been a team effort that everyone has pulled together and got this to work. It's not a miracle cure, but it's an aid to help us."

### Heroes recognized

Maj. Gen. Dennis G. Haines, Warner Robins Air Logistics Center commander, took a look at the process and said he was quite impressed.

"I give these to my heroes," said Gen. Haines, as he handed out Robins commemorative coins to the group.

"It's important that people see what you are doing. Thanks for helping us support the troops," he said.

— Ms. Lanorris Askew, WR-ALC Public Affairs



*Mr. Walter Kinard and Mr. Joey Westaway, sheet metal mechanics at Robins Air Force Base, Ga., explain to Maj. Gen. Dennis Haines, Warner Robins Air Logistics Center commander, the new process by which the center's technology and industrial support directorate repairs a C-130 Hercules air scoop. (Photo by Ms. Sue Sapp, WR-ALC Public Affairs)*



# Security Forces receive outpouring of support

**M**ore than 20,000 employees, family members and retirees conduct their business at Wright-Patterson Air Force Base, Ohio, every day, each one greeted at the gate by security forces troops who have been at their posts since well before sunrise.

In the wake of the September attacks and the war on terrorism, AFMC bases have turned to the men and women of their security forces squadrons to spend long hours protecting the people and physical assets at each base.

## Increased requirements

Security forces across the command have been stretched thin with increased manning and force protection requirements compounded by real-world deployments to support Operation Enduring Freedom. Wright-Patterson is no exception.

"We were stretched so thin that we didn't have the ability to relieve somebody to get off to go eat a meal," said Lt. Col. Benny Martin, commander of the 88th Security Forces Squadron.

## Making a difference

What makes the difference to the troops guarding the gates? Generosity, according to the 26-year security forces veteran.

When the duty schedules got tough, the people of Wright-Patterson came through. "The base brought the meals to us," said Col. Martin. "I imagine that at every other installation it's the same way — it's not just here.

"They would cook dinner or breakfast and bring it in and serve it to the guys hot," said Col. Martin. "We've had chili,

we've had spaghetti, we've had breakfast burritos... just this morning, we had biscuits and gravy."

## A heavy workload

When the dust settled from the Sept. 11 attacks, security forces troops adapted quickly to a daily routine that starts at 4:30 a.m.

After receiving the day's bulletins, the troops go through "guard mount" (the process of reporting to assigned posts for the day), and conduct their duties at those assigned locations.

The duty day ends with weapons turn-in at the armory between 5:30 p.m. and 6 p.m. The end result is a duty schedule that can stretch up to 14 duty hours each day, with four days on and two days off.

As for the dedication and competence of his troops, Col. Martin couldn't be prouder. "They all step up to the plate and they all handle it like they've been veterans for 20 years."

The squadron cadre of 300 security forces troops and augmentees perform a variety of other police-related duties, beyond the visible gate guard duties.

According to Col. Martin, the squadron conducts patrols in their squad cars, investigative services and K-9 services, which means bomb sweeps and drug sweeps. The unit also trains and equips fire teams, provides security for priority resources and ensures game warden services are available for on-base hunters.

Regarding their motivation, Col. Martin said that the troops know "they have a very important, very vital job to be done. They know that this installation is counting on them."



## Supporting security forces at all levels

Organizations providing personnel for augmentee outside of their normal assigned duties have been supporting the increased security forces work load in their own way.

"We're getting a lot of good support from our augmentees," said Airman 1st Class Paul Hoersten, while working his gate guard shift at the Kittyhawk community area.

One augmentee, Staff Sgt. Christopher Kaelin, is a database programmer at Air Force Institute of Technology. He explained he and his fellow augmentees have helped get security forces personnel on a "semi-reasonable" work schedule, which means the two-day break after four long days spent protecting the base.

"Right now I'm working five days on and two days off, mostly just for the surge," Sgt. Kaelin said, referring to the high-volume traffic that occurs each morning and at lunchtime.

His presence at the gate during part of the day has greatest value for "the folks who are going to be staying all day — we make sure they are going to get a breakfast or lunch break."

A security forces augmentee for two years at Wright-Patterson and at a previous assignment as well, Sgt. Kaelin and his fellow augmentees work non-surge hours in the squadron headquarters, or at a different post to relieve troops who have appointments. He said that while the augmentee duty gets him out from behind his desk, it is not without frustration. "There are long days. It can be frustrating at times because of that."

At the same time, he is not underestimating the gravity of security forces duties. "We understand the importance of the job," he said.

### Generosity as a force multiplier

Augmentees and core security forces troops alike have noted the outpouring of generosity, and its impact on their morale.

As they drive to work, Wright-Patterson people have shared everything from "a kind word at the gate to feeding these troops out at the gate for going on two months now," Col. Martin said. "It's been tremendous. It's not any one agency or one individu-

al...it's clear across the board. We've had support from the headquarters all the way down to the smallest units on base."

The gate guards may not have the chance to show outward signs of thanks, but that doesn't mean the generosity isn't appreciated.

"At the time they may not see how much we appreciate it," said Sgt. Kaelin, "when they are handing it to us, we are concerned with getting the next person in."

"Nothing is better than hot chocolate on a cold day," he added. "It's really appreciated."

"To me, there's not words to express the gratitude we have toward this community," Col. Martin said.

### Bringing out the best in everyone

One of the many commuters says she believes the base is in good hands.

"They are being thorough about their job," said Ms. Susan Donoff, the applications services division chief at AFIT. "I'd rather have a half-hour wait at the gate than be pushed through really fast and no security be done." She knows her family can rely on her to be there, because "our security forces are protecting me as an employee here and protecting others on base also."

The surge of patriotism that has swept across the nation is directly linked to this great outpouring of generosity, according to Col. Martin. "I think that this one incident has pulled not only this community, but our entire country together in ways we never thought possible."

Security forces troops everywhere will continue to work extended days as long as the world situation requires, and they will undoubtedly continue to receive high praise and generous gifts from the people they protect.

Those who wish to donate a meal or other prepared goods to the troops should contact their local security forces squadron for details of what they may need and how to go about making a donation.

— Capt. Jeff Sandrock, AFMC Public Affairs (Title photo by Capt.

## Everything you ever wanted to know ...

## AFMC Help Center can answer your questions

**W**ith all the Air Force Materiel Command support to the war on terrorism, many of us require information we never needed before. Where is it and how do you get it?

### How easy is it?

It's easier than you think — possibly more than you'll ever need to know about AFMC is now available via a single search query submitted to the AFMC Help Center. Just check it out at <https://www.afmc-help.wpafb.af.mil/>.

When you ask the help center, it will look at every unclassified AFMC web site in response to your single search query. You will find the latest information from sites you may not even be aware of.

This site was developed to save labor hours and put information you're looking for at your fingertips.

### You asked for it — you got it

Based on user feedback, the AFMC Plans and Programs Directorate and Requirements Directorate knowledge management team incorporated effective web-indexing software.

More web sites are now accessible, redundancy has been eliminated, search words in linked web site results are highlighted and search results present a more focused display.

### There's a bonus

As a bonus, there are new help center favorites — links guaranteed to make your job easier.

Still can't find the answer to your specific question? There's a list of contacts appropriate to your search, so you can call or e-mail the expert to get the authoritative answer.

With all this available at the click of a button ... what are you waiting for?

— Mr. Richard Ennis, AFMC Deskbook Support Office



# Overseas terrorist attack made Brooks firefighter more "cautious"

**A**s the only fire department member at Brooks Air Force Base, Texas, to have experienced a terrorist attack, Deputy Fire Chief MSgt. Curtis Hill knows that the Sept. 11 acts of terrorism at New York's World Trade Center and at the Pentagon will have a permanent impact on surviving firefighters' response to future situations.

"It made me a lot more aware of what is going on around me. I now have a heightened sense of awareness," Sgt. Hill said about his experiences following the 1982 terrorist attack at Ramstein Air Base, Germany.

## He wasn't prepared

Nothing in this 21-year Air Force veteran's career could have prepared him for the post-attack effects on his psyche that flared anew while watching live TV coverage of the collapse of the twin 110-story World Trade Center towers.

"I was walking into the Ramstein AB dental clinic when I heard a blast down the street. I didn't know what it was then. I spent 6-7 hours at the clinic as the base locked down under threatcon delta," recalls the 40-year-old Lubbock, Texas native.

Terrorists had exploded a device inside a fire extinguisher that had been placed underneath a car parked in front of the Ramstein AB headquarters.

"Before that happened, I didn't bother locking my car doors," he said. "At home, I used to leave my windows open."

Personal security became

an issue for him and his colleagues following the attack.

"We really made sure that everything was secure," he said. "Everybody had to produce two forms of identification."

"We got a little bit paranoid because we felt vulnerable," he said.

## It was unexpected

Then the proverbial "other shoe fell."

While an anticipated flurry of false bomb threats occurred shortly after the attack, something unexpected happened.

In the aftermath, everyone's sense of security had been irreparably shaken.

"A couple of days after the attack, terrorists had written a note containing a photo of the Non-Commissioned Officers club that included its newsstand," he said.

"You could read the date on

the paper in the newsstand, which was after the attack," Sgt. Hill said, adding, "They did this even under delta conditions!"

Seventeen years later while on temporary duty to Laughlin AFB in Del Rio, Texas, his memories of the attack fueled his cautionary approach to a fire call.

## It changed his life

At the time, he was conducting a manning assistance visit there as acting deputy fire chief.

"A security guard called me to report a car was on fire across the street from the main gate. When I arrived there, it didn't look right," he said.

Sgt. Hill assessed the situation as suspicious, based, in part, on the fact that the vehicle driver could not be found.

"We purposely limited the number of firefighters sent in

to investigate," Sgt. Hill said. He explained that he wanted to restrict the number of potential casualties if the car fire turned out to be something other than what it appeared to be.

"It's always in the back of my mind," he confessed when referring to the potential for terrorist activity disguised in what normally would be considered routine situations.

## It was haunting

He empathizes with his civilian firefighter brothers in New York who didn't realize the magnitude of the consequences that would befall them.

Sgt. Hill knows they will be forever haunted by memories of a nightmare that in future years will resurface when they respond to future emergencies.

— Mr. Rudy Purificato,  
311th HSW



*Chief Master Sgt. Curtis Hill, Brooks deputy fire chief, relived his experience with terrorists while watching the Sept. 11 attack at New York's World Trade Center. (Photo by Mr. Rudy Purificato, 311th HSW)*



# Museum puts 'special' in special events

A World War I Fokker triplane soars overhead and darts across the sky. Pulsing rhythms from the big band era emanate from a concert attended by thousands. An aerobatic parachutist lands perfectly at show center, evoking a groundswell of cheers from an admiring crowd.

Contrary to what some might assume, these images aren't taken from a Hollywood set or from someone's creative imagination. Instead, they are moments of magic from separate special events hosted at the U.S. Air Force Museum located at Wright-Patterson AFB, Ohio.

## To educate and entertain

Seeking to animate history and generate greater attendance, the museum has expanded its special events programs in recent years, placing a greater emphasis on major-scale activities to educate and entertain visitors in a fun way.

From major flying events like the Dawn Patrol Rendezvous World War I Fly-In and Quarter-Scale, Radio-Controlled Aircraft Fly-In to performances by the Air Force Band of Flight and USO Troupe, the formidable but fun task of planning and managing an array of special events rests on the shoulders of the museum's five-person special events division.

"These community events we produce serve as a critical link between the civilian and military worlds," said Ms. Teresa Lacy, chief of the museum's special events division. "People not only really enjoy these events, but they also absorb Air Force history."

Along with managing major flying events and musical performances, the museum's special events pros coordinate and support military ceremonies, a guest lecture series, aircraft rollouts, exhibit openings, reunion group visits, classic aviation films, memorial ceremonies and a myriad of other programs.

In 2000, the division oversaw more than 700 special events. "These special events bring history to life," said Ms. Denise Bollinger, one of the museum's special events coordinators.

"They give the public an opportunity to interact with aviation greats, lecturers, reenactors, pilots and even musicians, as well as allow them to enjoy the sights and sounds of aviation history," she said.

Increasingly, the efforts of the muse-



*The U.S. Air Force Museum hosts the Radio-Controlled Aircraft Fly-In, which in 2001, featured more than 250 of the nation's best remote control aircraft pilots flying almost 750 airplanes representing all eras of aviation history. (Air Force Museum photo)*

um's special events coordinators yield not only volume but impact. In recent years, division members have labored long hours promoting museum and Air Force visibility by supporting a Medal of Honor ceremony covered by ABC World News; a visit by former President Bill Clinton to accept the first Dayton Peace Prize, an event covered by CNN and CSPAN; a lecture by author Mr. Stephen Coonts; a visit by NASCAR driver Mr. Rusty Wallace, along with visits from numerous key military leaders, elected officials, heads of state and corporate CEOs.

## A gratifying job

"The most enjoyable aspect of what we do is when people go home with smiling faces and a great memory in their heart after an event," said Ms. Lacy. "The feeling of having contributed to that happiness is just great."

According to Ms. Bollinger, it is gratifying to see the reaction of first-time visitors at a special event as they grasp the museum's size and scope.

"The most rewarding thing is seeing the faces of the people who come to the museum for the first time and are overwhelmed with the enormity of the facility, amazed at the quantity and condition of the beautiful aircraft and comforted to know there is a place where Air Force history is being preserved and displayed by people who care," said Ms. Bollinger.

The museum's special events agenda

has become even more ambitious as Ms. Lacy and her staff have been engaged in considerable planning for the museum's role in commemorating 2003's Centennial of Flight Celebration and the Wright brothers' legacy. That year, the museum will open a third hangar, unveil a Cold War gallery, roll out the first permanent public exhibit of a B-2 Spirit stealth bomber and serve as the site for a number of major events celebrating a century of manned, powered flight.

The special events staff has been meeting with representatives of Inventing Flight, the Dayton-based organization tasked with promoting the area's aviation history and ties to the Wright brothers, and officials from the U.S. Centennial of Flight Commission, the national organization charged with promoting 2003 across the country and around the world.

"The year 2003 represents a tremendous opportunity to promote the museum, aviation and the Air Force," said Ms. Lacy. "We hope to bring international recognition to the celebration in Dayton and at the same time develop longstanding relationships with national and international aviation organizations."

Thanks in part to the efforts of its special events division, the U.S. Air Force Museum is positioned to soar higher in 2003 and beyond.

— Mr. Chris McGee, U.S. Air Force Museum Public Affairs

# My experiences at ground-zero

— By 2nd Lt. Tana Hamilton  
ASC Public Affairs

I've been to New York City before, but at the end of September I saw a different place. The events of the 11th changed my previously scheduled visit. I spent two days there.

I had to see ground-zero. My feelings were very mixed about why I had to go there, and what my purpose was, but I knew that I would go. Since I already was in Manhattan, I set out on foot for this pilgrimage. I decided that as a military member, I wanted to see the reason we'd engage in another long conflict, this time called "war."

I walked south on Broadway and shopped a bit along the way to distract my mind from my final destination. The streets had traffic, though there was a ban on cars with only one passenger entering the city during peak hours. Things didn't look terribly different, yet.

As I got closer to where the towers once stood, I asked a store clerk where was the closest place to view the scene. I felt weird, like I was asking directions to a cemetery that still had ongoing processions. After all, this site still contained the bodies of thousands.

I would not need directions. Soon, I saw signs hanging on store doors saying that credit cards weren't accepted, because the phone lines were down. As I neared Chambers Street, a putrid odor, similar to the charred smell of a house razed by fire, permeated the air. Its strength was surprising, since I was still blocks away from the towers, and this was two weeks after the attack.

Soon barriers appeared on either side of the streets, forming pathways so pedestrians could only cross at controlled points. I turned on a street north of the site, to view cleanup efforts, cranes, ladders and loud dump trucks. I spoke to a policeman standing in front of sawhorse barriers who proudly told me that he was also a New Jersey Air National Guardsman.

I continued down the tunneled path on Broadway to Fulton Street, then John Street, where I stared directly at the remains of the North Tower of the World Trade Center. I didn't expect it to look so

sterile. Police buses, rented fences and uniformed military members stood between the building and the closest accessible point. In contrast to its blackened, hollow exterior, a tall white and glass high-rise stood behind it with a large American flag proudly hanging near the top. My nostrils burned from the smell, and my stomach turned. I tasted why people I'd seen there on television wore surgical masks. I had enough for one day.

The next evening, I took the subway with friends to the point where I had left the day before, and continued south and then east circling the scene. There were tourists and locals, all gathered to see the destruction. At every intersection with a clear view, there were people: never enough to block the whole road, never lingering too long, never talking too loudly. Some took videos or snapshots with their cameras. There was a somber feeling as couples put arms around their partners' backs, for some sort of comfort.

In the chilly night-air, I saw the south tower. It wasn't black, like the first one — it burned white and ashen, and the steel beams were more mangled. Smoke still rose from the floors underneath it, still burning like the remains of a campfire.

We passed a parking garage blocks away from the towers that had a lone car remaining. Some had written poetry, or names and dates on the dusty windows of empty stores.

I spoke to every military member I saw along the way — mostly Guardsman or Reservists. I asked about their shifts, which most said lasted 12 hours. I asked them about their rotations, and many were willing to work the continuous days.

One military member spoke of a priest who died when someone jumping from a tower landed on him. He showed me the priest's business card, and told me of his devotion to victims of fires in the city. A soldier showed me a picture he carried in his pocket that an elementary school child colored and sent to thank the workers.

As a former 1st Combat Camera photographer, I've documented humanitarian efforts, military operations, and the effects on the victims in other countries. I've never seen destruction like this in my own country. This time, those affected were my friends, fellow military members, and



*Top: Smoke rising from the South Tower two weeks following Sept. 11. Bottom: The remains of the North Tower as seen from Broadway.*

other Americans.

I had no desire to go any closer to get more images. I only wanted to offer my encouragement to those there, the heroes that witness our war-zone daily, and to understand what happened in New York City. I still don't understand. But the hollow, solemn place that I saw, I will never forget.



## Firefighter best in DOD

The best civilian firefighter in the Defense Department works at Eglin Air Force Base, Fla., at Ben's Lake Fire Station 3.

Mr. Joseph Suddarth, a lead firefighter with the 96th Civil Engineering Group and crew chief in charge of a single fire engine and its crew, was recently selected as the Outstanding Civilian Firefighter for the Defense Department for 2001.

"I'm just doing my job and couldn't do it without my crew and supervisors," Mr. Suddarth said.

He credits his success to practicing strong values.

"I believe if you put people first, you succeed at what you do," Mr. Suddarth said. "We answer emergency calls and treat everyone with the best possible care we can."

Fire Station 3 crew members take care of Ben's Lake and perform mutual aid work with the Fort Walton Beach and Ocean City Wright fire departments. They respond to approximately 600 emergency calls per year.

Among his many accomplishments, he was the 96th Air Base Wing and Air Armament Center Civilian of the Year and was selected as an outstanding performer during last year's operational readiness inspection.

He was also named firefighter of the year by the Niceville-Valparaiso, Fla., Rotary Club. Last year, he helped save two people's lives in separate incidents.

In the first, he gave artificial respiration to a 6-month-old who stopped breathing. In the other, he responded to a call at the base exchange from a woman complaining of severe chest pains.

Since her children couldn't ride in the ambulance, Mr. Suddarth went the extra mile to have his crew drive the woman's car to the hospital with her 4- and 8-year-old daughters. He stayed with the children until their father arrived.

The St. Louis, Mo., native spent eight years in the Air Force



**Mr. Joseph Suddarth, 96th Civil Engineer Group at Eglin Air Force Base, Fla., assures his truck and his station is always ready.**  
(Courtesy photo)

and was a master instructor at the fire academy at Goodfellow AFB, Texas, when he left the service in 1998. He joined the Eglin fire department that same year.

When looking at his credentials, Mr. Suddarth is more than a fireman. He's achieved instructor status in many areas.

He's an emergency medical technician; is trained to respond to hazardous materials incidents; and trained in rescue situations as well as many other critical specialties.

He said he uses his expertise to train other firemen.

"We're a team, and I want to get good people ahead," Mr. Suddarth said. "We're a sharp station and I feel like we're the best on Eglin. I'm honored to be a part of this station and work with outstanding people. In a way, I just represent them."

— Maj. Debbie Millett, AAC Public Affairs

## AFRL engineer receives technology transfer award

Mr. George Schmitt, a division chief from Air Force Research Laboratory's Materials and Manufacturing Directorate, Wright-Patterson Air Force Base, Ohio, has received the Federal Laboratory Consortium's Midwest Region Technology Transfer Award for work related to brake-by-wire technologies.

Mr. Schmitt received first place in the automotive and aerospace category and honorable mention in the materials, manufacturing and consumer products categories during the consortium's midwest region meeting held at Argonne National Laboratory near Chicago, Ill.

In June 2001, AFRL and Delphi Automotive Systems signed a technical, collaborative agreement to bring brake-by-wire technology to the automotive industry.

While conventional car brake systems

are hydraulic, this technology works by sending electrical signals to the brake system. Brake-by-wire technology is expected to offer consumers increased safety and vehicle stability, while helping automotive vehicle manufacturers, who will be able to combine vehicle components into modular assemblies using cost-effective manufacturing processes.

The Air Force has extensive background in landing gear and fly-by-wire systems, while Delphi will work to integrate brake-by-wire technologies into next-generation, vehicle handling and safety systems. Introducing the technology to the commercial arena also will benefit the Air Force by creating a demand for shared components and reducing costs for government and industry. In addition, the collaboration will leverage investments in more electric aircraft and validate this technology.

Mr. Schmitt's 37-year career with the directorate started in 1963 as an Air Force lieutenant. Since then, he has worked on developing aircraft and spacecraft coatings, including nonmetallic and laser-hardened materials and state-of-the-art polyurethane and fluoroelastomer-based erosion coatings.

Mr. Schmitt has received several awards for his work, including outstanding engineer from Affiliate Societies Council of Dayton; Society of Automotive Professional Engineers Fellow; Association of International Aeronautics and Astronautics Associate Fellow; "Who's Who in Engineering" and many Air Force performance awards.

The Federal Laboratory Consortium was organized to promote and strengthen nationwide technology transfer.

— Mr. Timothy Anderl, AFRL Public Affairs

*"Planes and equipment  
aren't what make America great.  
Our real strength is the people  
who fly 'em and who maintain 'em,  
the people who make the military go..."*  
**President George W. Bush**

